

Figure 1: 161P2F10B SSH sequence of 182 nucleotides

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1  GATCACACAT TAGGTTATNG ACTTCAATAT TTTCAAATGG TTCAACTTCA GTCTTCTCTT
61 TAAAACTGGG TCCATGTGCC AAGAAAGATA GCCTCCATGC TCCTAAACTC ATTGTTATAA
121 CCATGGTTGC CTCCTCCACA ATTTGTATTT GATTTACTCC TAACAGCCAG CCACTGTTGA
181 TC
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Figure 2.

Figure 2A. The cDNA (SEQ ID. NO. :____) and amino acid sequence (SEQ ID. NO. :____) of 161P2F10B. The 3858 nucleotide sequence of 161P2F10B is shown. The codon for the start methionine is underlined. The open reading frame extends from nucleic acid 44-2671 including the stop codon.

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1                               M E S T L T
1 ctacttttattctgataaaacaggtctatgcagctaccaggacaATGGAATCTACGTTGAC
7  L A T E Q P V K K N T L K K Y K I A C I
61 TTTAGCAACGGAACAACCTGTTAAGAAGAACACTCTTAAGAAATATAAAATAGCTTGCAT
27  V L L A L L V I M S L G L G L G L G L R
121 TGTTCTTCTTGCTTTGCTGGTGATCATGTCACTTGGATTAGGCCTGGGGCTTGGACTCAG
47  K L E K Q G S C R K K C F D A S F R G L
181 GAAACTGGAAAAGCAAGGCAGCTGCAGGAAGAAGTGCTTTTGATGCATCATTTAGAGGACT
67  E N C R C D V A C K D R G D C C W D F E
241 GGAGAACTGCCGGTGTGATGTGGCATGTAAAGACCGAGGTGATTGCTGCTGGGATTTTGA
87  D T C V E S T R I W M C N K F R C G E T
301 AGACACCTGTGTGGAATCAACTCGAATATGGATGTGCAATAAATTTTCGTTGTGGAGAGAC
107 R L E A S L C S C S D D C L Q K K D C C
361 CAGATTAGAGGCCAGCCTTTGCTCTTGTTTCAGATGACTGTTTGCAGAAGAAAGATTGCTG
127 A D Y K S V C Q G E T S W L E E N C D T
421 TGCTGACTATAAGAGTGTTTGGCAAGGAGAAACCTCATGGCTGGAAGAAAACCTGTGACAC
147 A Q Q S Q C P E G F D L P P V I L F S M
481 AGCCCAGCAGTCTCAGTGCCCAGAAGGGTTTGACCTGCCACCAGTTATCTTGTCTTTCTAT
167 D G F R A E Y L Y T W D T L M P N I N K
541 GGATGGATTTAGAGCTGAATATTTATACACATGGGATACTTTAATGCCAAATATCAATAA
187 L K T C G I H S K Y M R A M Y P T K T F
601 ACTGAAAACATGTGGAATTCATTCAAAATACATGAGAGCTATGTATCCTACCAAACCTT
207 P N H Y T I V T G L Y P E S H G I I D N
661 CCCAAATCATTACACCATTTGTCACGGGCTTGATCCAGAGTCACATGGCATCATTGACAA
227 N M Y D V N L N K N F S L S S K E Q N N
721 TAATATGTATGATGTAAATCTCAACAAGAAATTTTCACTTTCTTCAAAGGAACAAAATAA
247 P A W W H G Q P M W L T A M Y Q G L K A
781 TCCAGCCTGGTGGCATGGGCAACCAATGTGGCTGACAGCAATGTATCAAGGTTTAAAGC
267 A T Y F W P G S E V A I N G S F P S I Y
841 CGCTACCTACTTTTGGCCCGGATCAGAAGTGGCTATAAATGGCTCCTTTCTTCCATATA
287 M P Y N G S V P F E E R I S T L L K W L
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GGCTGATGTCAGGGTTCCTCCTTCTGAGAGCCAAAAATGTTTCCTTCTATTTAGCAGACAA
 N I T H G F L Y P P A S N R T S D S Q Y
 GAATATCACCCACGGCTTCCTCTATCCTCCTGCCAGCAATAGAACATCAGATAGCCAATA
 D A L I T S N L V P M Y E E F R K M W D
 TGATGCTTTAATTACTAGCAATTTGGTACCTATGTATGAAGAATTCAGAAAAATGTGGGA
 Y F H S V L L I K H A T E R N G V N V V
 CTACTTCCACAGTGTTCTTCTTATAAAACATGCCACAGAAAGAAATGGAGTAAATGTGGT
 S G P I F D Y N Y D G H F D A P D E I T
 TAGTGACCAATATTTGATTATAATTATGATGGCCATTTTGATGCTCCAGATGAAATTAC
 K H L A N T D V P I P T H Y F V V L T S
 CAAACATTTAGCCAACACTGATGTTCCCATCCCAACACACTACTTTGTGGTGCTGACCAG
 C K N K S H T P E N C P G W L D V L P F
 TTGTAAAAACAAGAGCCACACACCGGAAACTGCCCTGGGTGGCTGGATGTCCTACCCTT
 I I P H R P T N V E S C P E G K P E A L
 TATCATCCCTCACCGACCTACCAACGTGGAGAGCTGTCCTGAAGGTAAACCAGAAGCTCT
 W V E E R F T A H I A R V R D V E L L T
 TTGGGTTGAAGAAAGATTTACAGCTCACATTGCCCGGGTCCGTGATGTAGAACTTCTCAC
 G L D F Y Q D K V Q P V S E I L Q L K T
 TGGGCTTGACTTCTATCAGGATAAAGTGCAGCCTGTCTCTGAAATTTTGCAACTAAAGAC
 Y L P T F E T T I *
 ATATTTACCAACATTTGAAACCACTATTTAAActtaataatgtctacttaatatataattt
 actgtataaagtaatttttgcaaaatataagtgttttttctggagaattgtaaaataaaa
 gttttctatttttcttaaaaaaaaaaccggaattccgggcttgggaggtgagggcagga
 gactcgcttgaacccgggagggcagaggttgagtgagccaagattgcgccattgcactcc
 agagcctgggtgacagagcaagactacatctcaaaaaataaataaaaataaaaagtaa
 caataaaaaataaaaagaacagcagagagaatgagcaaggagaaatgtcacaaactattgc
 aaaatactgttacactgggttggtctctccaagaagatactggaatctcttcagccatttg
 cttttcagaagtagaaaccagcaaaccacctctaagcggagaacatacgattctttatta
 agtagctctggggaaggaaagaataaaaagttgatagctccctgattgggaaaaaatgcac
 aattaataaagaatgaagatgaaagaaagcatgcttatgttgtaacacaaaaaaattca
 caaacgttggtggaaggaaaacagtatagaaaacattactttaactaaaagctggaaaaa
 ttttcagttgggatgagactgacaaaaagaacgggatttccaggcataaagttggcgtga
 gctacagaggggcacatgtggctcagtggaagacccttcaagattcaaagttccatttga
 cagagcaaaggcacttcgcaaggagaagggttaaattatgggtccaaagccaagtgggt
 aaagcgagcaatttgcagcataactgcttctcctagacagggctgagtgggcaaaatagc
 acagtacacacagtgactattagccactgccagaaacaggctgaacagccctgggagaca
 agggaaaggcaggtgggtgggagttgttcatggagagaaaaggagagttttagaaccagcaca
 tccactggagatgctggggccaccagaccctcccagtcataaagtctgggtgcctcattt

3721 gatctcagcctcatcatgaccctggagagaccctgataccatctgccagtccccgacagc
 3781 ttaggcactccttgccatcaacctgacccccgagtggttctccaggctccctgccccac
 3841 ccattcaggccggaattc

Figure 2B: The cDNA (SEQ ID. NO. : ____) and amino acid sequence (SEQ ID. NO. : ____) of 161P2F10B variant 1. The 3858 nucleotide sequence of 161P2F10B variant 1 is shown. The start methionine is underlined. The open reading frame extends from nucleic acid 44-2671 including the stop codon.

1	M E S T L T
1	ctactttattctgataaaacaggtctatgcagctaccaggacaATGGAATCTACGTTGAC
7	L A T E Q P V K K N T L K K Y K I A C I
61	TTTAGCAACGGAACAACCTGTTAAGAAGAACTCTTAAGAAATATAAAATAGCTTGCAT
27	V L L A L L V I M S L G L G L G L G L R
121	TGTTCTTCTTGCTTTGCTGGTGATCATGTCACTTGGATTAGGCCTGGGGCTTGGACTCAG
47	K L E K Q G S C R K K C F D A S F R G L
181	GAAACTGGAAAAGCAAGGCAGCTGCAGGAAGAAGTGCTTTGATGCATCATTTAGAGGACT
67	E N C R C D V A C K D R G D C C W D F E
241	GGAGAACTGCCGGTGTGATGTGGCATGTAAAGACCGAGGTGATTGCTGCTGGGATTTTGA
87	D T C V E S T R I W M C N K F R C G E T
301	AGACACCTGTGTGGAATCAACTCGAATATGGATGTGCAATAAATTTTCGTTGTGGAGAGAC
107	R L E A S L C S C S D D C L Q R K D C C
361	CAGATTAGAGGCCAGCCTTTGCTCTTGTTTCAGATGACTGTTTGCAGAGGAAAAGATTGCTG
127	A D Y K S V C Q G E T S W L E E N C D T
421	TGCTGACTATAAGAGTGTGTTGCCAAGGAGAAACCTCATGGCTGGAAGAAAACCTGTGACAC
147	A Q Q S Q C P E G F D L P P V I L F S M
481	AGCCCAGCAGTCTCAGTGCCAGAGGGTTTGACCTGCCACCAGTTATCTGTTTTCTAT
167	D G F R A E Y L Y T W D T L M P N I N K
541	GGATGGATTAGAGCTGAATATTTATACACATGGGATACTTTAATGCCAAATATCAATAA
187	L K T C G I H S K Y M R A M Y P T K T F
601	ACTGAAAACATGTGGAATTCATTCAAAATACATGAGAGCTATGTATCCTACCAAAACCTT
207	P N H Y T I V T G L Y P E S H G I I D N
661	CCCAAATCATTACACCATTTGTCACGGGCTTGTATCCAGAGTCACATGGCATCATTGACAA
227	N M Y D V N L N K N F S L S S K E Q N N
721	TAATATGTATGATGTAATCTCAACAAGAATTTTCACTTTCTTCAAAGGAACAAAATAA
247	P A W W H G Q P M W L T A M Y Q G L K A
781	TCCAGCCTGGTGGCATGGGCAACCAATGTGGCTGACAGCAATGTATCAAGGTTTAAAAGC
267	A T Y F W P G S E V A I N G S F P S I Y
841	CGCTACCTACTTTTGGCCCGGATCAGAAGTGGCTATAAATGGCTCCTTTCTTCCATATA
287	M P Y N G S V P F E E R I S T L L K W L
901	CATGCCTTACAACGGAAGTGTCCCATTGAAGAGAGGATTTCTACACTGTAAAATGGCT

Figure 3A. Amino acid sequence of 161P2F10B (SEQ ID. NO. : ____). The 161P2F10B protein has 875 amino acids.

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1 MESTLTATE QPVKNTLKK YKIACIVLLA LLVIMSLGLG LGLGLRKLEK QGSCRKKCFD
61 ASFRGLENCR CDVACKDRGD CCWDFEDTCV ESTRIWMCNK FRCGETRLEA SLSCSDDCCL
121 QKKDCCADYK SVCQGETSWL EENCDAQQS QCPEGFDLPP VILFSMDGFR AEYLYTWDTL
181 MPNINKLKTC GIHSKYMRAM YPTKTFPNHY TIVTGLYPES HGIIDNNMYD VNLNKNFSL
241 SKEQNNPAWW HGQPMWLTAM YQGLKAATYF WPGSEVAING SFPSIYMPYN GSVPFEE
301 TLLKWLDLPK AERPRFYTM YFEEDSSGHA GGPVSARVIK ALQVVDHAFG MLMEGLKQ
361 LHNCVNIILL ADHGMDQTYC NKMEYMTDYF PRINFFYMYE GPAPRIRAHN IPHDF
421 EEIVRNLSCR KPDQHFQPYL TPDLPKRLHY AKNVRIDKVH LFVDQQWLAV RSKSNT
481 GNHGYNNEFR SMEAIFLAHG PSFKEKTEVE PFENIEVYNL MCDLLRIQPA PNNGTH
541 HLLKVPFYEP SHAEVSKFS VCGFANPLPT ESLDCFCPHL QNSTQLEQVN QMLNLTQ
601 TATVKVNLPF GRPRVLQKNV DHCLLYHREY VSGFGKAMRM PMWSSYTVPO LGDT
661 VPDCLRADVR VPPSESQKCS FYLADKNITH GFLYPPASNR TSDSQYDALI TSNL
721 FRKMWDYFHS VLLIKHATER NGVNVVSGPI FDYNYDGHFD APDEITKHLA NTDV
781 FVVLTSCKNK SHTPENCPGW LDVLPFIIPH RPTNVESCPE GKPEALWVEE RFTA
841 DVELLTGLDF YQDKVQPVSE ILQLKTYLPT FETTI

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Figure 3B. Amino acid sequence of 161P2F10B variant 1 (SEQ ID. NO. : ____). The 161P2F10B variant 1 protein has 875 amino acids.

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1 MESTLTATE QPVKNTLKK YKIACIVLLA LLVIMSLGLG LGLGLRKLEK QGSCRKKCFD
61 ASFRGLENCR CDVACKDRGD CCWDFEDTCV ESTRIWMCNK FRCGETRLEA SLSCSDDCCL
121 QRKDCCADYK SVCQGETSWL EENCDAQQS QCPEGFDLPP VILFSMDGFR AEYLYTWDTL
181 MPNINKLKTC GIHSKYMRAM YPTKTFPNHY TIVTGLYPES HGIIDNNMYD VNLNKNFSL
241 SKEQNNPAWW HGQPMWLTAM YQGLKAATYF WPGSEVAING SFPSIYMPYN GSVPFEE
301 TLLKWLDLPK AERPRFYTM YFEEDSSGHA GGPVSARVIK ALQVVDHAFG MLMEGLKQ
361 LHNCVNIILL ADHGMDQTYC NKMEYMTDYF PRINFFYMYE GPAPRIRAHN IPHDF
421 EEIVRNLSCR KPDQHFQPYL TPDLPKRLHY AKNVRIDKVH LFVDQQWLAV RSKSNT
481 GNHGYNNEFR SMEAIFLAHG PSFKEKTEVE PFENIEVYNL MCDLLRIQPA PNNGTH
541 HLLKVPFYEP SHAEVSKFS VCGFANPLPT ESLDCFCPHL QNSTQLEQVN QMLNLTQ
601 TATVKVNLPF GRPRVLQKNV DHCLLYHREY VSGFGKAMRM PMWSSYTVPO LGDT
661 VPDCLRADVR VPPSESQKCS FYLADKNITH GFLYPPASNR TSDSQYDALI TSNL
721 FRKMWDYFHS VLLIKHATER NGVNVVSGPI FDYNYDGHFD APDEITKHLA NTDV
781 FVVLTSCKNK SHTPENCPGW LDVLPFIIPH RPTNVESCPE GKPEALWVEE RFTA
841 DVELLTGLDF YQDKVQPVSE ILQLKTYLPT FETTI

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Figure 4

Figure 4A. Amino acid alignment of 161P2F10B with ENPP3.

161P2F10B	m e s t l t l a t e q p v k k n t l k k y k i a c i v l l a l l v i m s l g l g	40
ENPP3	m e s t l t l a t e q p v k k n t l k k y k i a c i v l l a l l v i m s l g l g	40
161P2F10B	l g l g l r k l e k q g s c r k k c f d a s f r g l e n c r c d v a c k d r g d	80
ENPP3	l g l g l r k l e k q g s c r k k c f d a s f r g l e n c r c d v a c k d r g d	80
161P2F10B	c c w d f e d t c v e s t r i w m c n k f r c g e t r l e a s l c s c s d d c l	120
ENPP3	c c w d f e d t c v e s t r i w m c n k f r c g e t r l e a s l c s c s d d c l	120
161P2F10B	q k k d c c a d y k s v c q g e t s w l e e n c d t a q q s q c p e g f d l p p	160
ENPP3	q k k d c c a d y k s v c q g e t s w l e e n c d t a q q s q c p e g f d l p p	160
161P2F10B	v i l f s m d g f r a e y l y t w d t l m p n i n k l k t c g i h s k y m r a m	200
ENPP3	v i l f s m d g f r a e y l y t w d t l m p n i n k l k t c g i h s k y m r a m	200
161P2F10B	y p t k t f p n h y t i v t g l y p e s h g i i d n n m y d v n l n k n f s l s	240
ENPP3	y p t k t f p n h y t i v t g l y p e s h g i i d n n m y d v n l n k n f s l s	240
161P2F10B	s k e q n n p a w w h g q p m w l t a m y q g l k a a t y f w p g s e v a i n g	280
ENPP3	s k e q n n p a w w h g q p m w l t a m y q g l k a a t y f w p g s e v a i n g	280
161P2F10B	s f p s i y m p y n g s v p f e e r i s t l l k w l d l p k a e r p r f y t m y	320
ENPP3	s f p s i y m p y n g s v p f e e r i s t l l k w l d l p k a e r p r f y t m y	320
161P2F10B	f e e p d s s g h a g g p v s a r v i k a l q v v d h a f g m l m e g l k q r n	360
ENPP3	f e e p d s s g h a g g p v s a r v i k a l q v v d h a f g m l m e g l k q r n	360
161P2F10B	l h n c v n i i l l a d h g m d q t y c n k m e y m t d y f p r i n f f y m y e	400
ENPP3	l h n r v n i i l l a d h g m d q t y c n k m e y m t d y f p r i n f f y m y e	400
161P2F10B	g p a p r i r a h n i p h d f f s f n s e e i v r n l s c r k p d q h f k p y l	440
ENPP3	g p a p r i r a h n i p h d f f s f n s e e i v r n l s c r k p d q h f k p y l	440
161P2F10B	t p d l p k r l h y a k n v r i d k v h l f v d q q w l a v r s k s n t n c g g	480
ENPP3	t p d l p k r l h y a k n v r i d k v h l f v d q q w l a v r s k s n t n c g g	480
161P2F10B	g n h g y n n e f r s m e a i f l a h g p s f k e k t e v e p f e n i e v y n l	520
ENPP3	g n h g y n n e f r s m e a i f l a h g p s f k e k t e v e p f e n i e v y n l	520
161P2F10B	m c d l l r i q p a p n n g t h g s l n h l l k v p f y e p s h a e e v s k f s	560
ENPP3	m c d l l r i q p a p n n g t h g s l n h l l k v p f y e p s h a e e v s k f s	560
161P2F10B	v c g f a n p l p t e s l d c f c p h l q n s t q l e q v n q m l n l t q e e i	600
ENPP3	v c g f a n p l p t e s l d c f c p h l q n s t q l e q v n q m l n l t q e e i	600
161P2F10B	t a t v k v n l p f g r p r v l q k n v d h c l l y h r e y v s g f g k a m r m	640
ENPP3	t a t v k v n l p f g r p r v l q k n v d h c l l y h r e y v s g f g k a m r m	640
161P2F10B	p m w s s y t v p q l g d t s p l p p t v p d c l r a d v r v p p s e s q k c s	680
ENPP3	p m w s s y t v p q l g d t s p l p p t v p d c l r a d v r v p p s e s q k c s	680
161P2F10B	f y l a d k n i t h g f l y p p a s n r t s d s q y d a l i t s n l v p m y e e	720
ENPP3	f y l a d k n i t h g f l y p p a s n r t s d s q y d a l i t s n l v p m y e e	720
161P2F10B	f r k m w d y f h s v l l i k h a t e r n g v n v v s g p i f d y n y d g h f d	760
ENPP3	f r k m w d y f h s v l l i k h a t e r n g v n v v s g p i f d y n y d g h f d	760
161P2F10B	a p d e i t k h l a n t d v p i p t h y f v v l t s c k n k s h t p e n c p g w	800
ENPP3	a p d e i t k h l a n t d v p i p t h y f v v l t s c k n k s h t p e n c p g w	800

161P2F10B	l d v l p f i i p h r p t n v e s c p e g k p e a l w v e e r f t a h i a r v r	840
ENPP3	l d v l p f i i p h r p t n v e s c p e g k p e a l w v e e r f t a h i a r v r	840
161P2F10B	d v e l l t g l d f y q d k v q p v s e i l q l k t y l p t f e t t i	875
ENPP3	d v e l l t g l d f y q d k v q p v s e i l q l k t y l p t f e t t i	875

Figure 4b. Amino acid alignment of 161P2F10B with 161P2F10B variant 1.

161P2F10B	m e s t l t l a t e q p v k k n t l k k y k i a c i v l l a l l v i m s l g l g	40
161P2F10B variant 1	m e s t l t l a t e q p v k k n t l k k y k i a c i v l l a l l v i m s l g l g	40
161P2F10B	l g l g l r k l e k q g s c r k k c f d a s f r g l e n c r c d v a c k d r g d	80
161P2F10B variant 1	l g l g l r k l e k q g s c r k k c f d a s f r g l e n c r c d v a c k d r g d	80
161P2F10B	c c w d f e d t c v e s t r i w m c n k f r c g e t r l e a s l c s c s d d c l	120
161P2F10B variant 1	c c w d f e d t c v e s t r i w m c n k f r c g e t r l e a s l c s c s d d c l	120
161P2F10B	q k k d c c a d y k s v c q g e t s w l e e n c d t a q q s q c p e g f d l p p	160
161P2F10B variant 1	q r k d c c a d y k s v c q g e t s w l e e n c d t a q q s q c p e g f d l p p	160
161P2F10B	v i l f s m d g f r a e y l y t w d t l m p n i n k l k t c g i h s k y m r a m	200
161P2F10B variant 1	v i l f s m d g f r a e y l y t w d t l m p n i n k l k t c g i h s k y m r a m	200
161P2F10B	y p t k t f p n h y t i v t g l y p e s h g i i d n n m y d v n l n k n f s l s	240
161P2F10B variant 1	y p t k t f p n h y t i v t g l y p e s h g i i d n n m y d v n l n k n f s l s	240
161P2F10B	s k e q n n p a w w h g q p m w l t a m y q g l k a a t y f w p g s e v a i n g	280
161P2F10B variant 1	s k e q n n p a w w h g q p m w l t a m y q g l k a a t y f w p g s e v a i n g	280
161P2F10B	s f p s i y m p y n g s v p f e e r i s t l l k w l d l p k a e r p r f y t m y	320
161P2F10B variant 1	s f p s i y m p y n g s v p f e e r i s t l l k w l d l p k a e r p r f y t m y	320
161P2F10B	f e e p d s s g h a g g p v s a r v i k a l q v v d h a f g m l m e g l k q r n	360
161P2F10B variant 1	f e e p d s s g h a g g p v s a r v i k a l q v v d h a f g m l m e g l k q r n	360
161P2F10B	l h n c v n i i l l a d h g m d q t y c n k m e y m t d y f p r i n f f y m y e	400
161P2F10B variant 1	l h n r v n i i l l a d h g m d q t y c n k m e y m t d y f p r i n f f y m y e	400
161P2F10B	g p a p r i r a h n i p h d f f s f n s e e i v r n l s c r k p d q h f k p y l	440
161P2F10B variant 1	g p a p r i r a h n i p h d f f s f n s e e i v r n l s c r k p d q h f k p y l	440
161P2F10B	t p d l p k r l h y a k n v r i d k v h l f v d q q w l a v r s k s n t n c g g	480
161P2F10B variant 1	t p d l p k r l h y a k n v r i d k v h l f v d q q w l a v r s k s n t n c g g	480
161P2F10B	g n h g y n n e f r s m e a i f l a h g p s f k e k t e v e p f e n i e v y n l	520
161P2F10B variant 1	g n h g y n n e f r s m e a i f l a h g p s f k e k t e v e p f e n i e v y n l	520
161P2F10B	m c d l l r i q p a p n n g t h g s l n h l l k v p f y e p s h a e e v s k f s	560
161P2F10B variant 1	m c d l l r i q p a p n n g t h g s l n h l l k v p f y e p s h a e e v s k f s	560
161P2F10B	v c g f a n p l p t e s l d c f c p h l q n s t q l e q v n q m l n l t q e e i	600
161P2F10B variant 1	v c g f a n p l p t e s l d c f c p h l q n s t q l e q v n q m l n l t q e e i	600
161P2F10B	t a t v k v n l p f g r p r v l q k n v d h c l l y h r e y v s g f g k a m r m	640
161P2F10B variant 1	t a t v k v n l p f g r p r v l q k n v d h c l l y h r e y v s g f g k a m r m	640
161P2F10B	p m w s s y t v p q l g d t s p l p p t v p d c l r a d v r v p p s e s q k c s	680
161P2F10B variant 1	p m w s s y t v p q l g d t s p l p p t v p d c l r a d v r v p p s e s q k c s	680
161P2F10B	f y l a d k n i t h g f l y p p a s n r t s d s q y d a l i t s n l v p m y e e	720
161P2F10B variant 1	f y l a d k n i t h g f l y p p a s n r t s d s q y d a l i t s n l v p m y e e	720

161P2F10B	frkmwdyfhsvlllikhaterngvnnvsgpifdynydg hfd	760
161P2F10B variant 1	frkmwdyfhsvlllikhaterngvnnvsgpifdynydg hfd	760
161P2F10B	apdeitkhlantdvpiptthyfvvltscnkshtpencpgw	800
161P2F10B variant 1	apdeitkhlantdvpiptthyfvvltscnkshtpencpgw	800
161P2F10B	ldvlpfiiphrptnvescpegkpealwveerftahiarvr	840
161P2F10B variant 1	ldvlpfiiphrptnvescpegkpealwveerftahiarvr	840
161P2F10B	dvelltgl dfyqdkvqp vsei lqlktylptfetti	875
161P2F10B variant 1	dvelltgl dfyqdkvqp vsei lqlktylptfetti	875

4C) Alignment of 161P2F10B and SNP variant 2 carrying a T to P mutation at position 874.

Query: 492 MEAIFLAHGSPFKEKTEVEPFENIEVYNLMCDLLRIQPAPNNGTHGSLNHLLKVPFYEPS 551
 MEAIFLAHGSPFKEKTEVEPFENIEVYNLMCDLLRIQPAPNNGTHGSLNHLLKVPFYEPS
 Sbjct: 1 MEAIFLAHGSPFKEKTEVEPFENIEVYNLMCDLLRIQPAPNNGTHGSLNHLLKVPFYEPS 60

Query: 552 HAEVSKFSVCGFANPLPTESLDCFCPHLQNSTQLEQVNQMLNLTQEEITATVKVNLPGF 611
 HAEVSKFSVCGFANPLPTESLDCFCPHLQNSTQLEQVNQMLNLTQEEITATVKVNLPGF
 Sbjct: 61 HAEVSKFSVCGFANPLPTESLDCFCPHLQNSTQLEQVNQMLNLTQEEITATVKVNLPGF 120

Query: 612 RPRVLQKNVDHCLLYHREYVSGFGKAMRMPMWSSYTPVQLGDTSPPTVPDCLRADVRV
 671
 RPRVLQKNVDHCLLYHREYVSGFGKAMRMPMWSSYTPVQLGDTSPPTVPDCLRADVRV
 Sbjct: 121 RPRVLQKNVDHCLLYHREYVSGFGKAMRMPMWSSYTPVQLGDTSPPTVPDCLRADVRV 180

Query: 672 PPSESQKCSFYLDKNITHGFLYPPASNRTSDSQYDALITSNLVPMYEEFRKMWDYFHSV 731
 PPSESQKCSFYLDKNITHGFLYPPASNRTSDSQYDALITSNLVPMYEEFRKMWDYFHSV
 Sbjct: 181 PPSESQKCSFYLDKNITHGFLYPPASNRTSDSQYDALITSNLVPMYEEFRKMWDYFHSV 240

Query: 732 LLIKHATERNGVNVVSGPIFDYNYDGHFDAPDEITKHLANTDVPIPTHYFVVLTSCKNKS 791
 LLIKHATERNGVNVVSGPIFDYNYDGHFDAPDEITKHLANTDVPIPTHYFVVLTSCKNKS
 Sbjct: 241 LLIKHATERNGVNVVSGPIFDYNYDGHFDAPDEITKHLANTDVPIPTHYFVVLTSCKNKS 300

Query: 792 HTPENCPGWLDVLPFIIPHRPTNVESCPEGKPEALWVEERFTAHIARVRDVELLTGLDFY 851
 HTPENCPGWLDVLPFIIPHRPTNVESCPEGKPEALWVEERFTAHIARVRDVELLTGLDFY
 Sbjct: 301 HTPENCPGWLDVLPFIIPHRPTNVESCPEGKPEALWVEERFTAHIARVRDVELLTGLDFY 360

Query: 852 QDKVQPVS EILQLKTYLPTFETI 875
 QDKVQPVS EILQLKTYLPTFET I
 Sbjct: 361 QDKVQPVS EILQLKTYLPTFETI 384

Figure 5: 161P2F10B Hydrophilicity profile
(Hopp T.P., Woods K.R., 1981. Proc. Natl. Acad. Sci. U.S.A. 78:3824-3828)

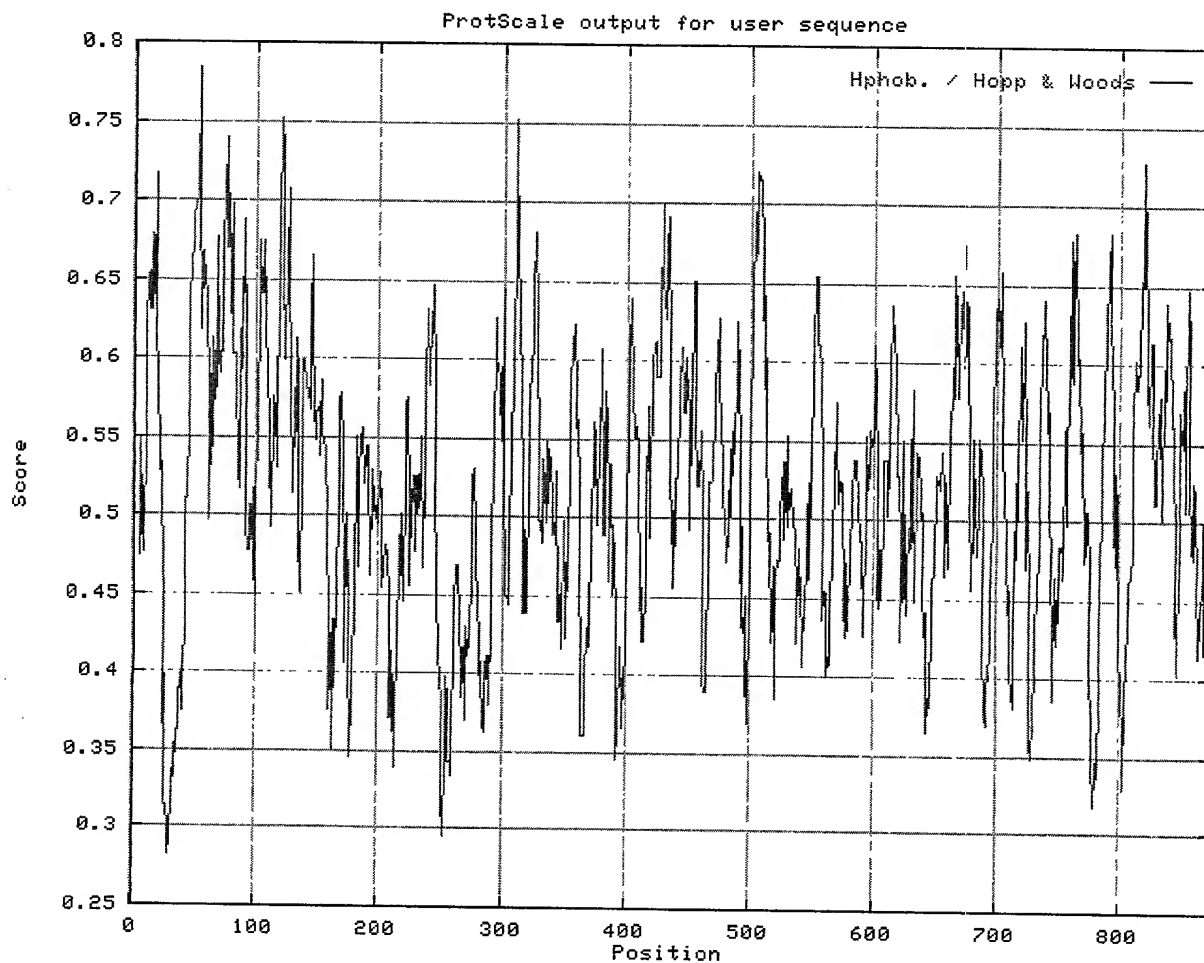


Figure 6: 161P2F10B Hydropathicity Profile
(Kyte J., Doolittle R.F., 1982. J. Mol. Biol. 157:105-132)

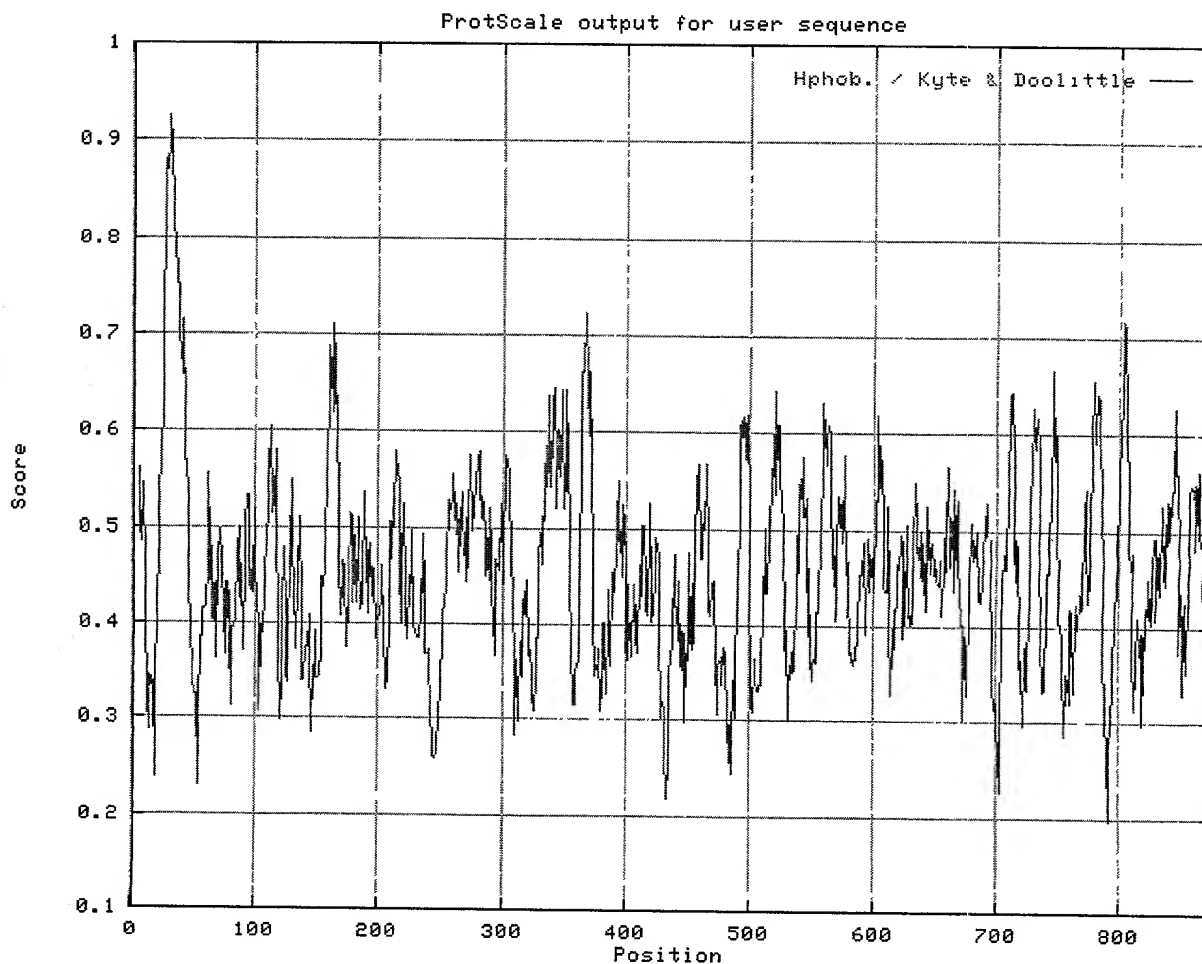


Figure 7: 161P2F10B % Accessible Residues Profile
(Janin J., 1979. Nature 277:491-492)

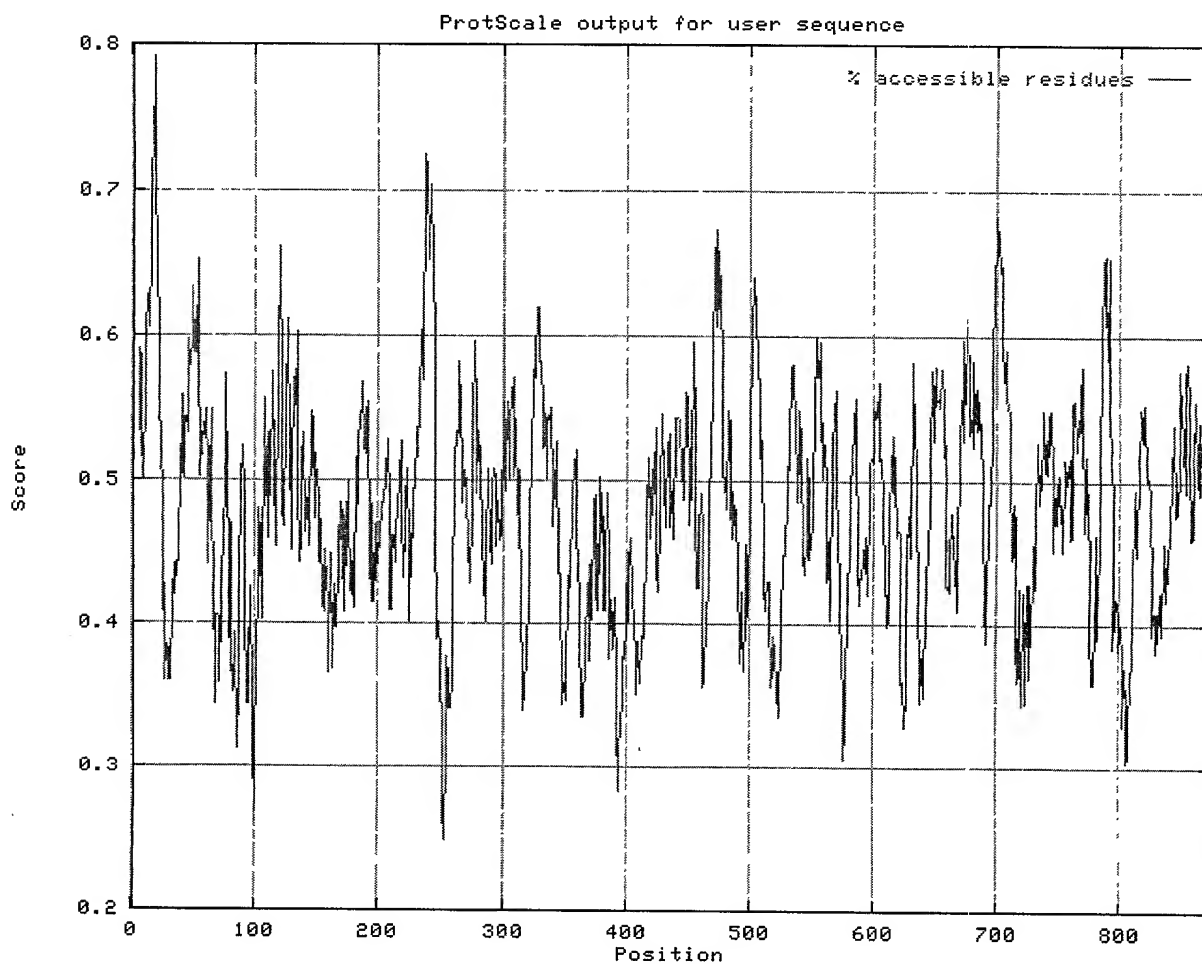


Figure 8: 161P2F10B Average Flexibility Profile

(Bhaskaran R., Ponnuswamy P.K., 1988.

Int. J. Pept. Protein Res. 32:242-255)

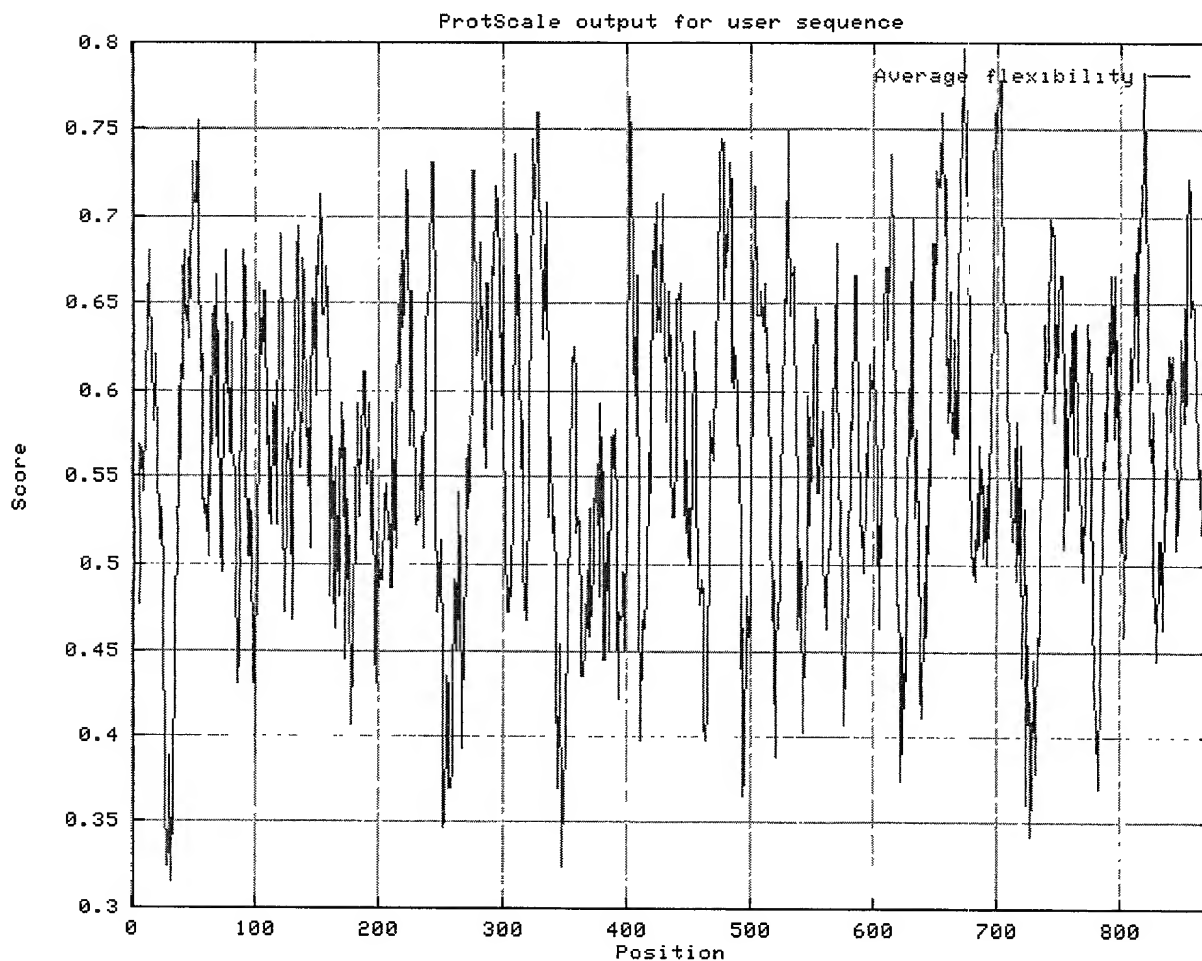


Figure 9: 161P2F10B Beta-turn Profile
(Deleage, G., Roux B. 1987. Protein Engineering 1:289-294)

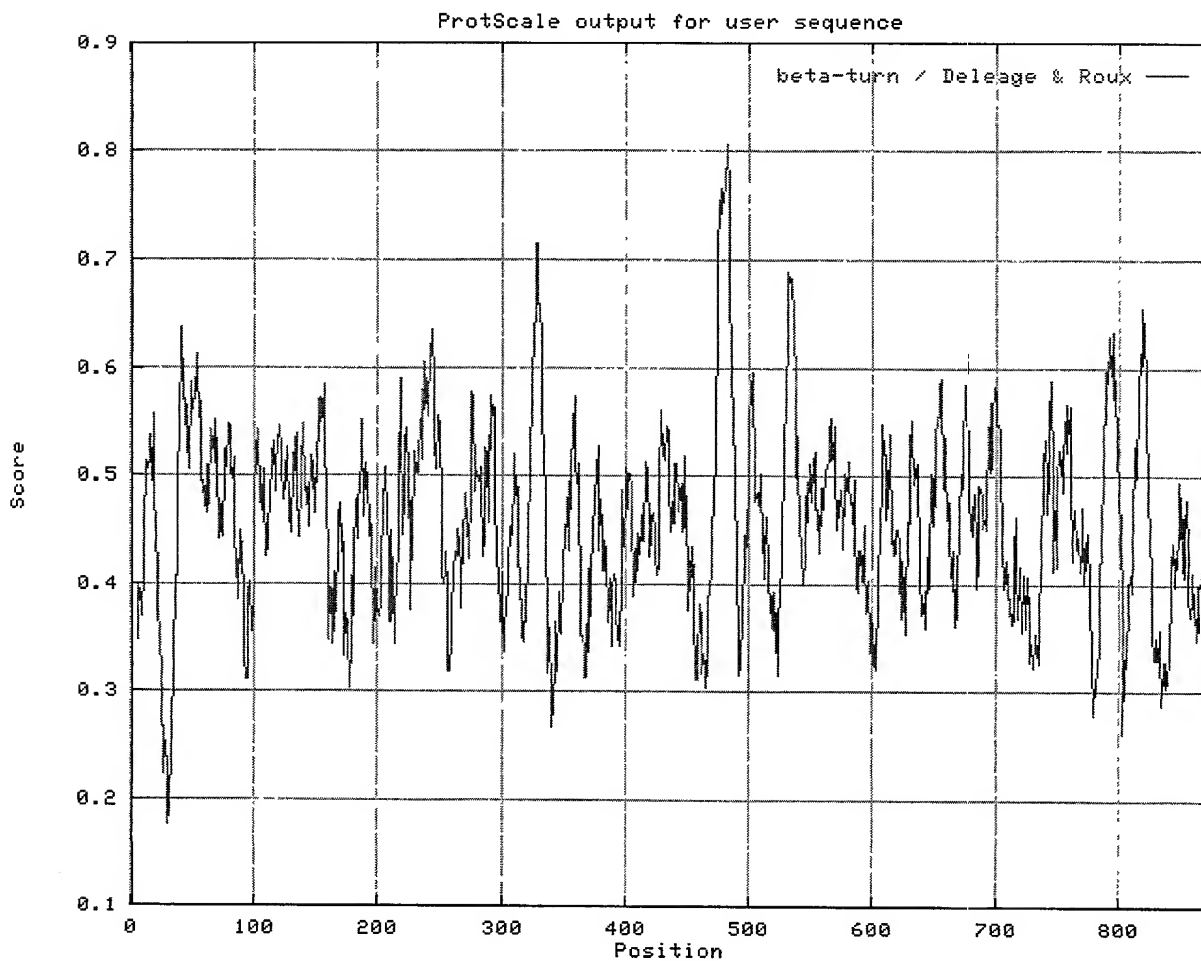


Figure 10: Expression of 161P2F10B by RT-PCR

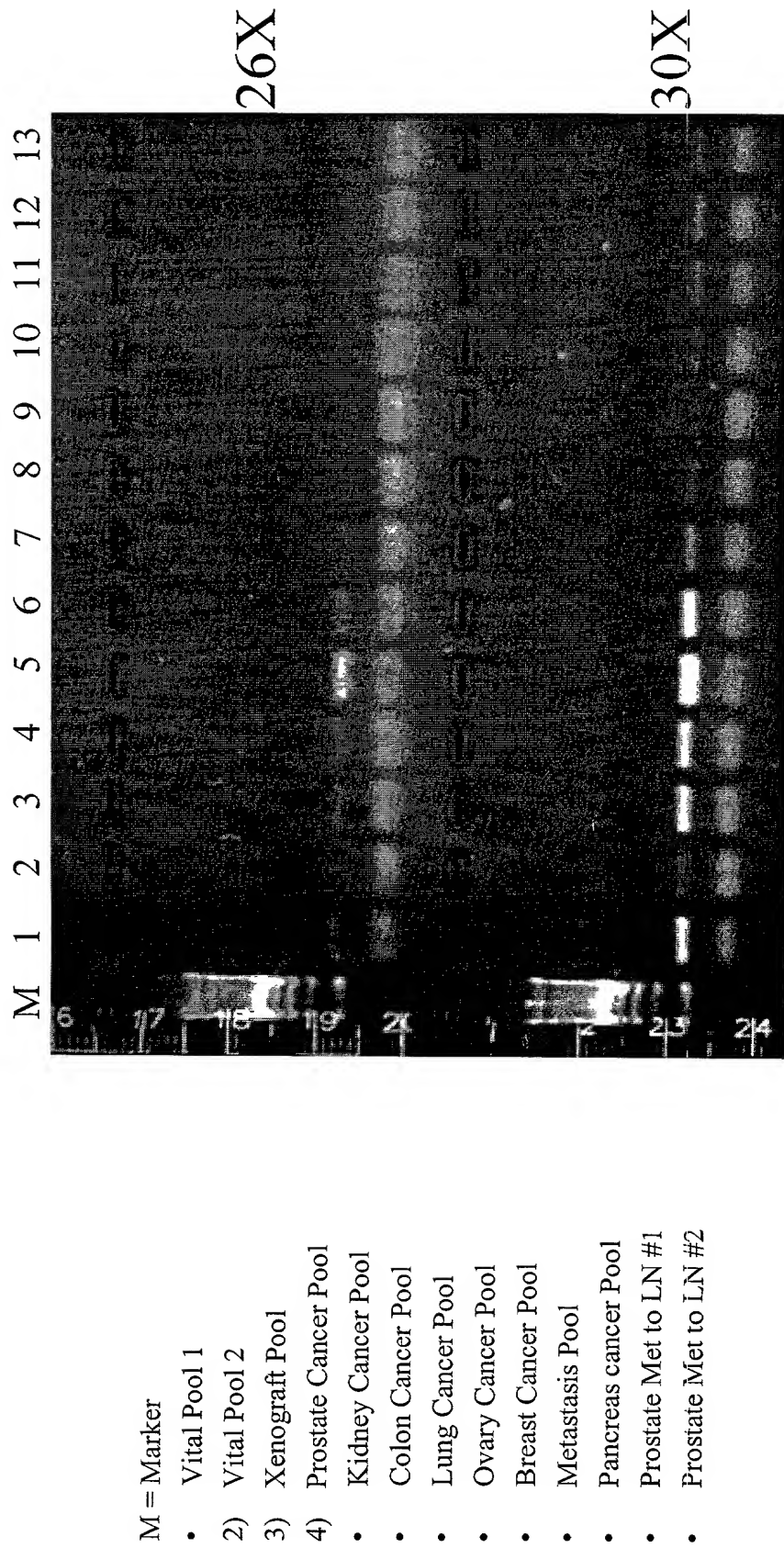


Figure 11: Expression of 161P2F10B in Normal Tissues

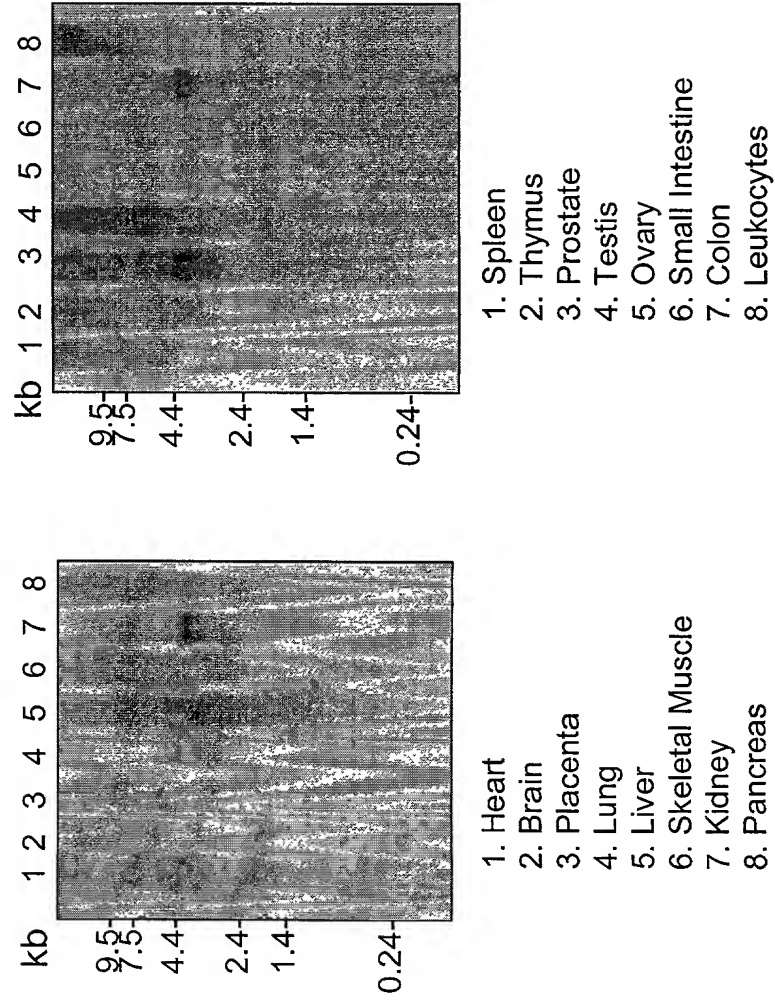


Figure 12: Expression of 161P2F10B in Patient Kidney Cancer Specimens and in Normal Tissues

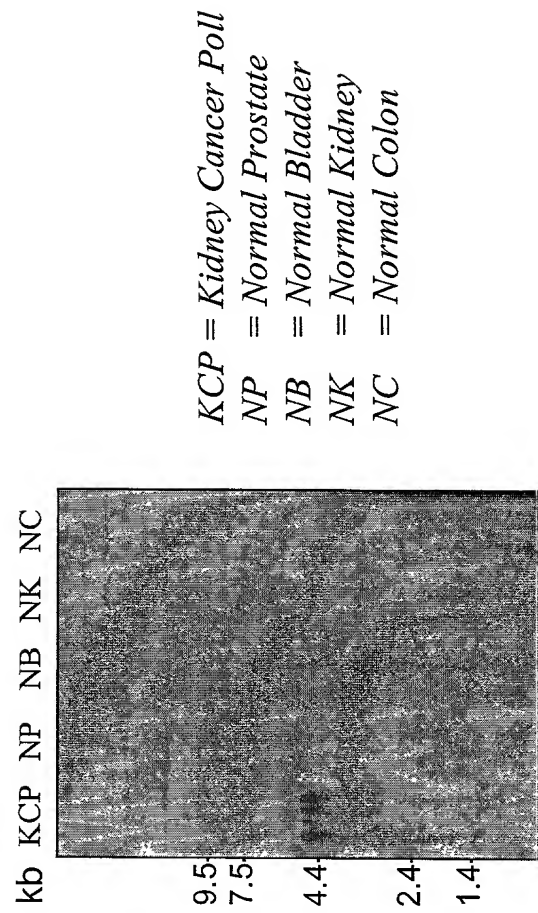
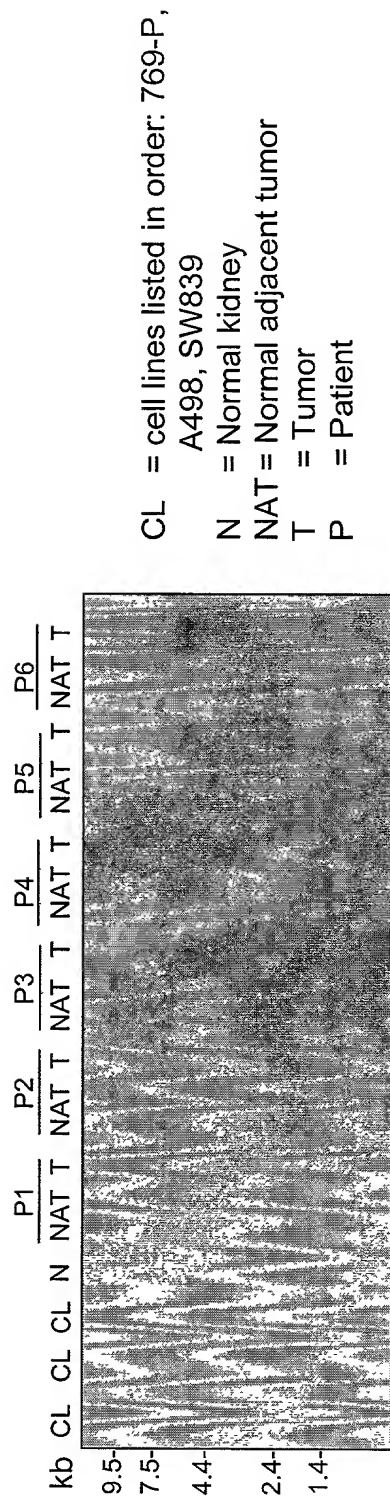
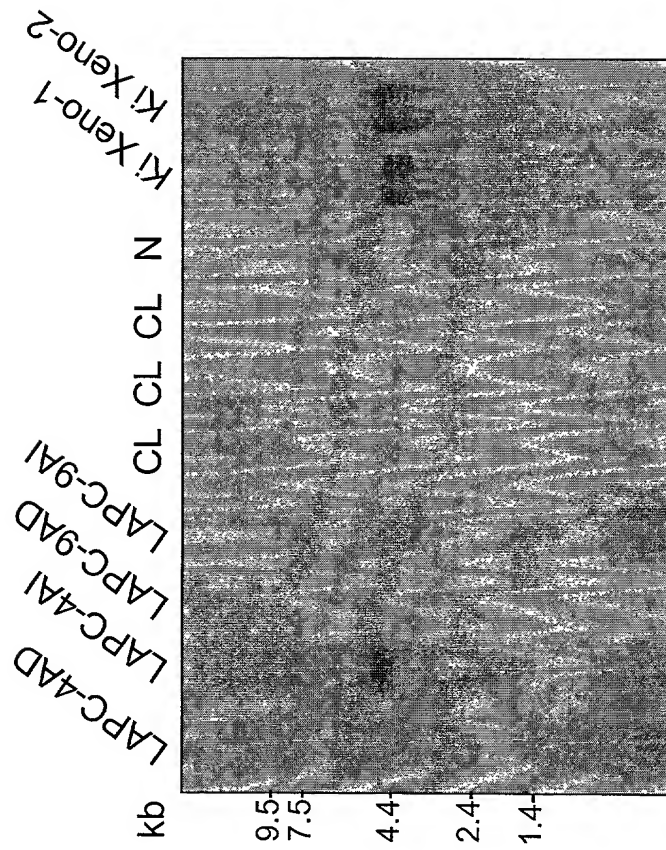


Figure 13: Expression of 161P2F10B in Kidney Cancer Patient Specimens



- P1 - Papillary carcinoma, stage I
- P2 - Invasive papillary carcinoma
- P3 - Clear cell type grade 1/3, focally 2/3
- P4 - Clear cell type, stage III
- P5 - Clear cell type, stage III
- P6 - Clear cell type, stage III

Figure 14: Expression of 161P2F10B in Kidney Cancer Xenografts



CL = cell lines listed in order: 769-P,
A498, Caki-1
N = Normal kidney
Ki Xeno = Kidney xenograft

Figure 15: Expression of 161P2F10B in Kidney Cancer Metastasis Specimens and in Normal Tissues

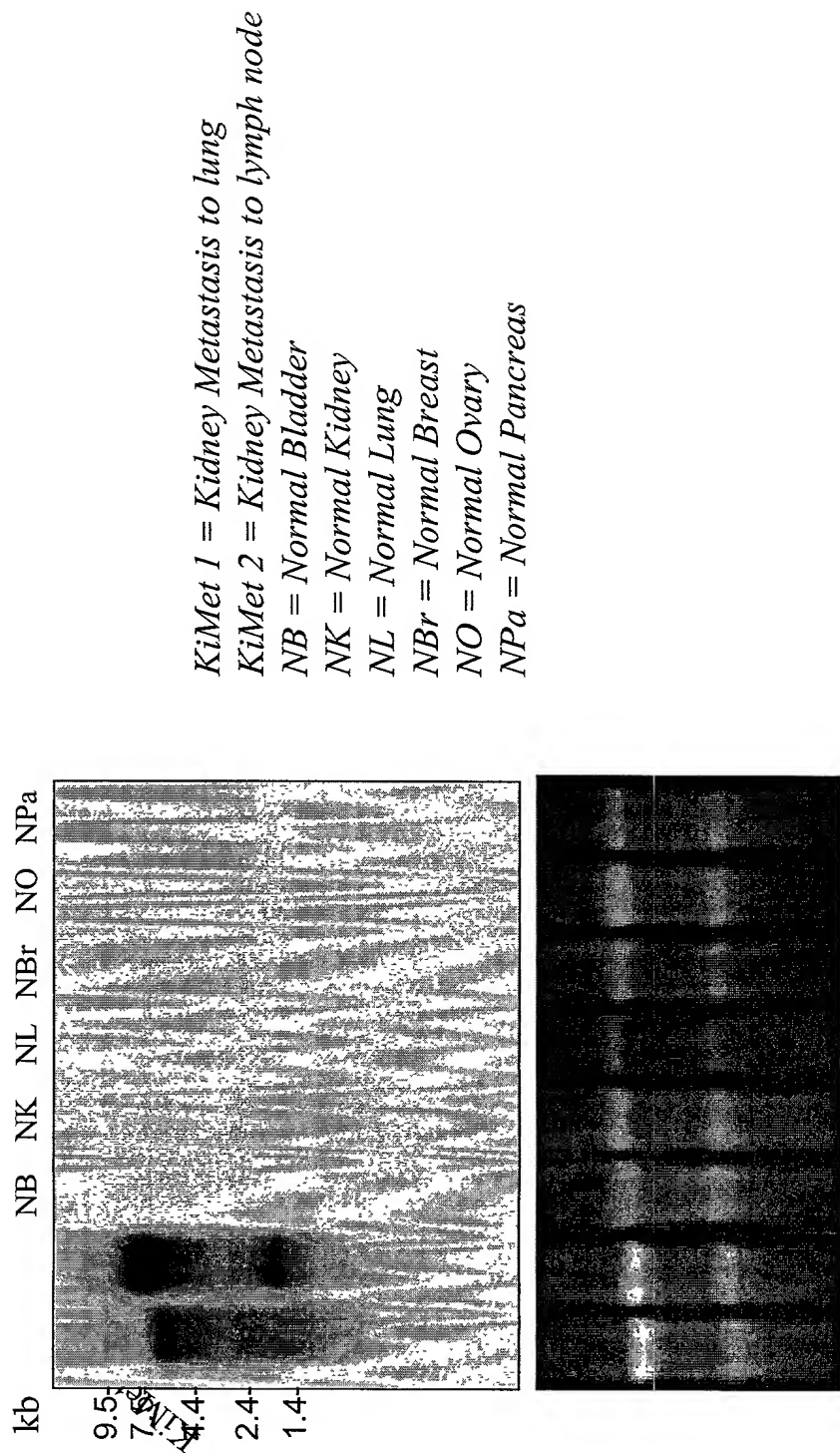


Figure 16: Expression of 161P2F10B Protein by Immunohistochemistry in Kidney Cancer Patient Specimens

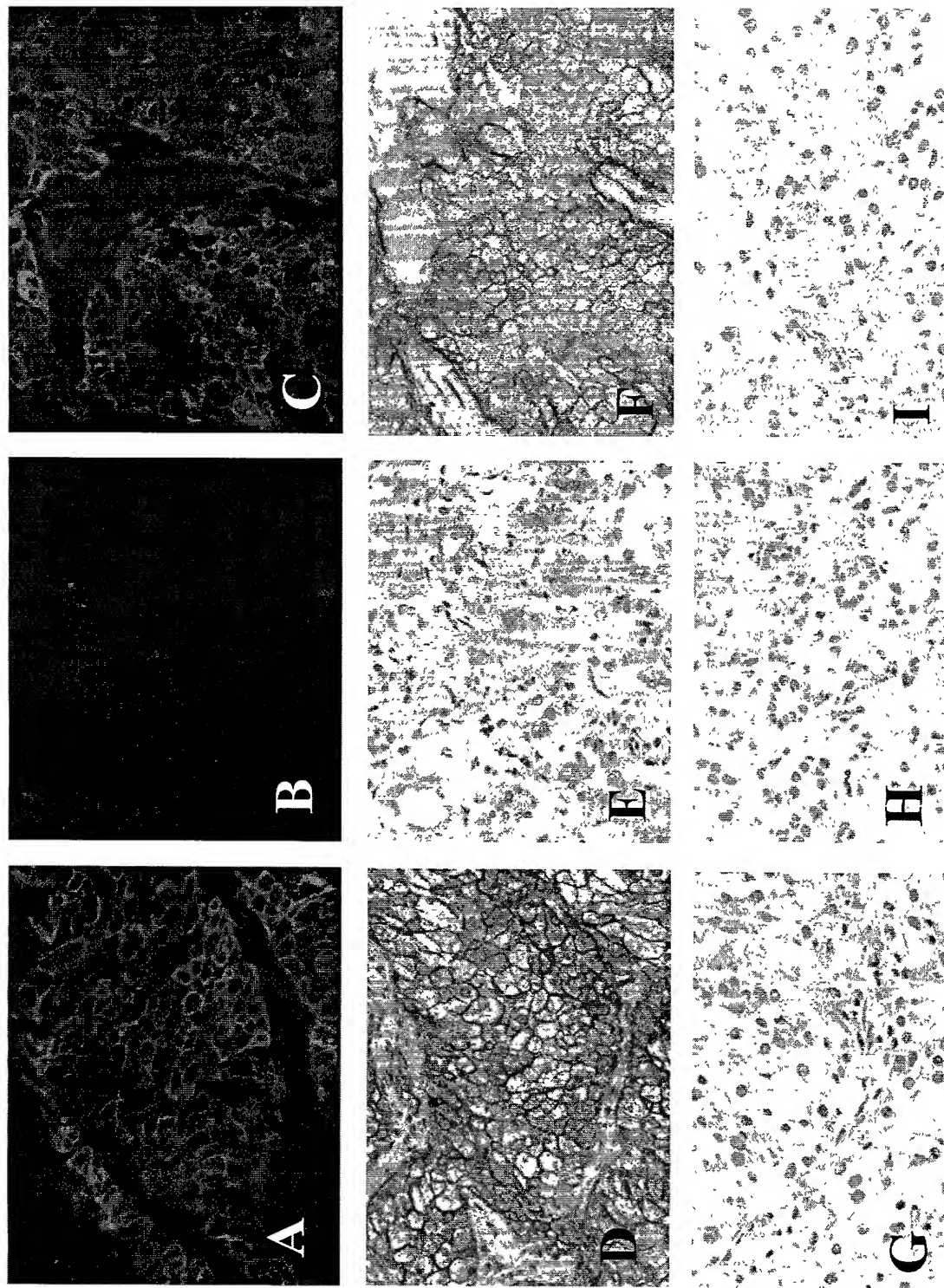
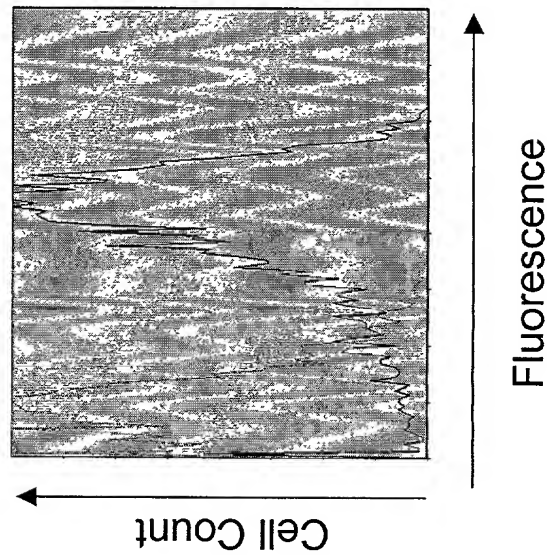


Figure 17: Expression of 161P2F10B Protein on the Cell Surface of Renal Cell Carcinoma Xenografts

A. Clear Cell Carcinoma



B. Renal Cancer Metastasis to LN

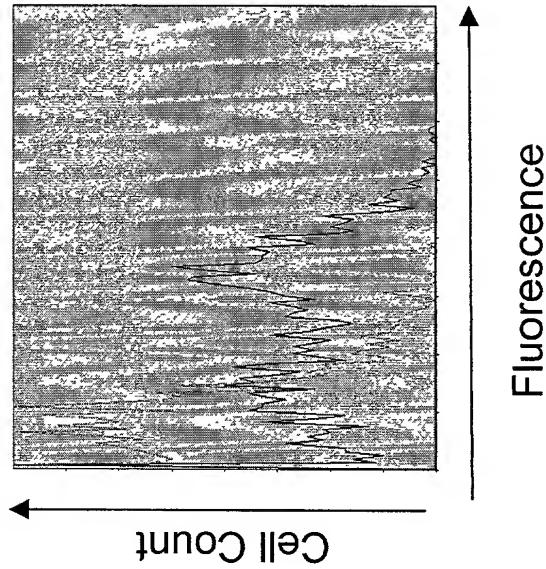
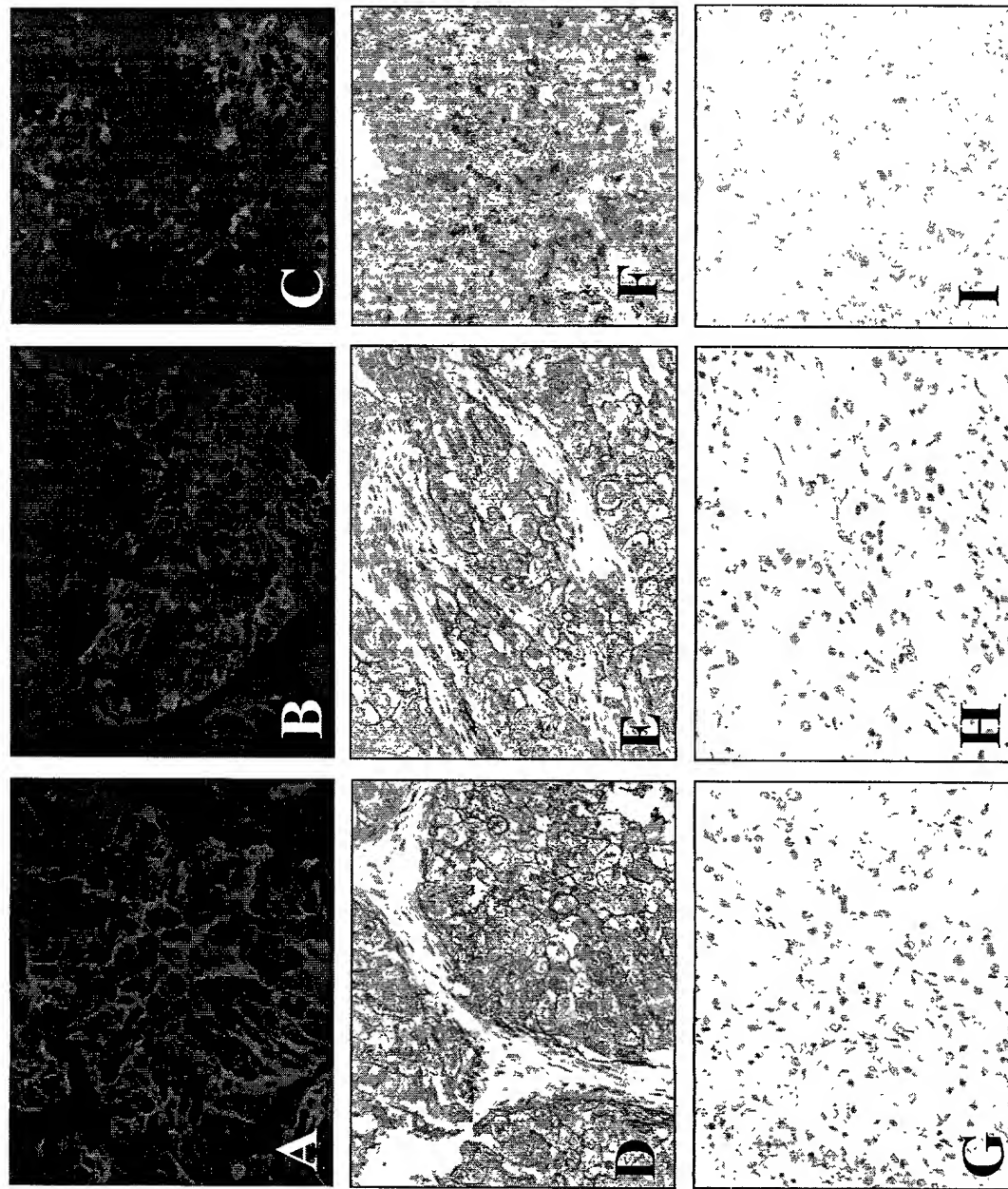


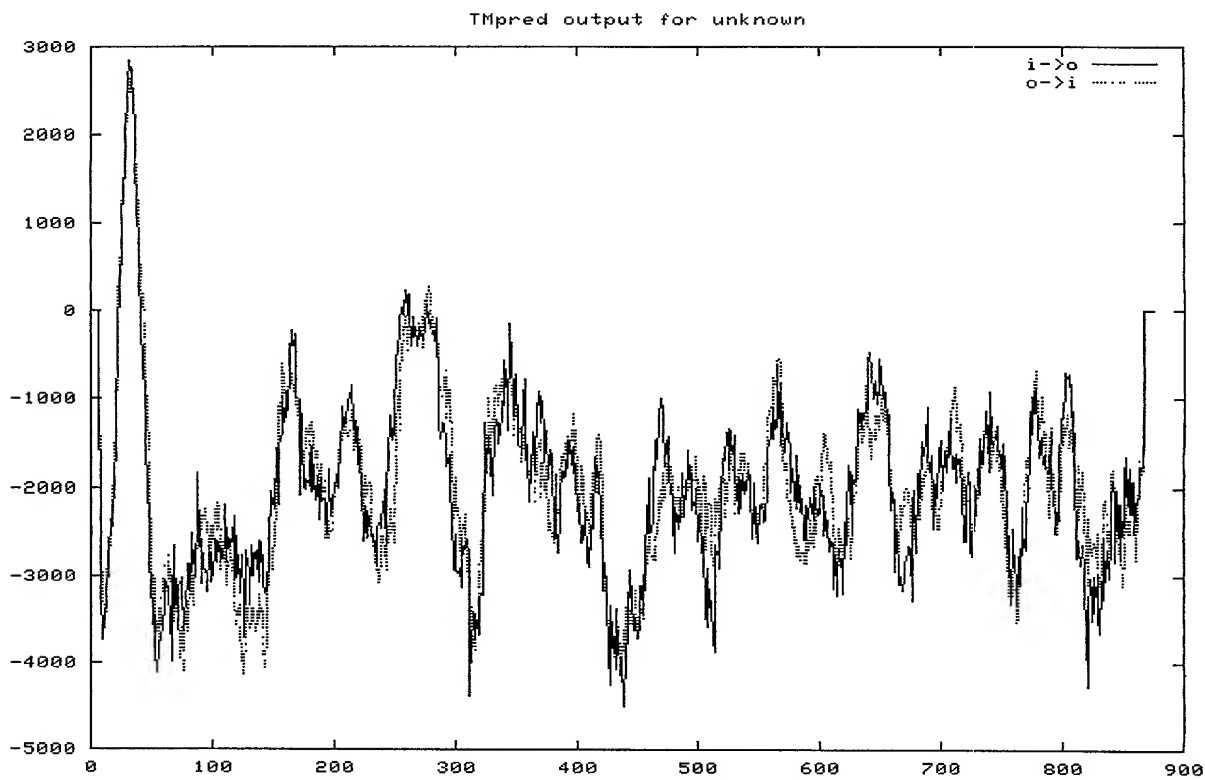
Figure 18: Expression of 161P2F10B Protein by Immunohistochemistry in Human Cancer Xenograft Tissues



[illegible]

```
c: random coil (31.31%)
e: extended strand (11.31%)
h: alpha helix (57.37%)
```

Figure 19B



C

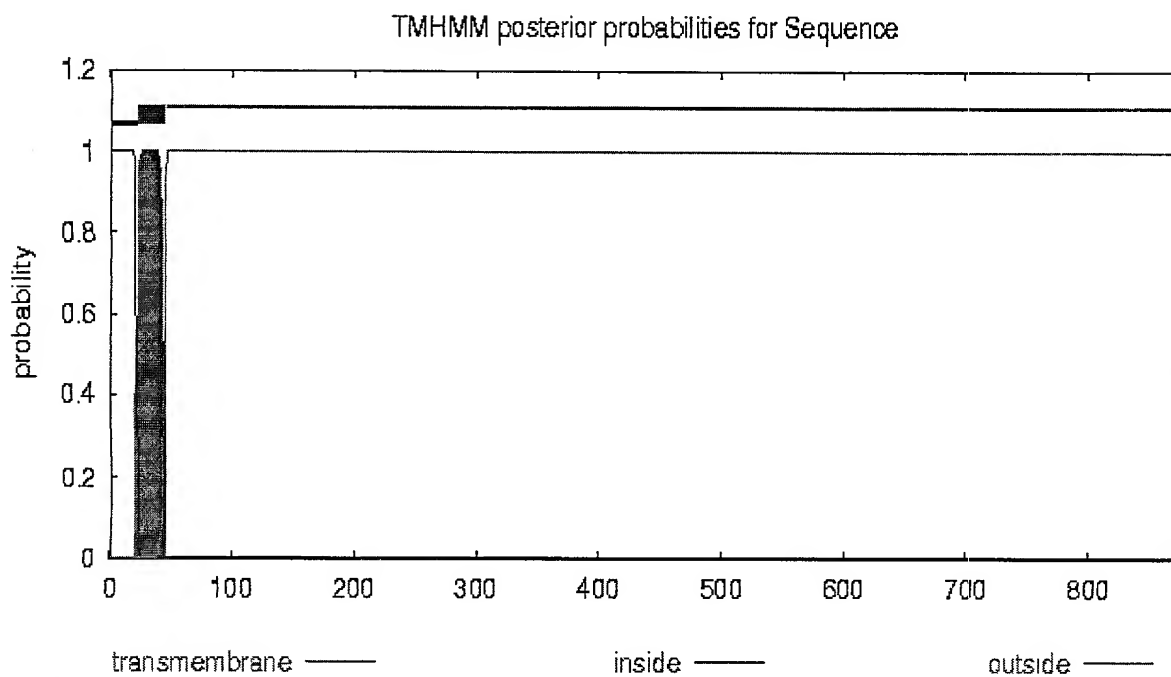
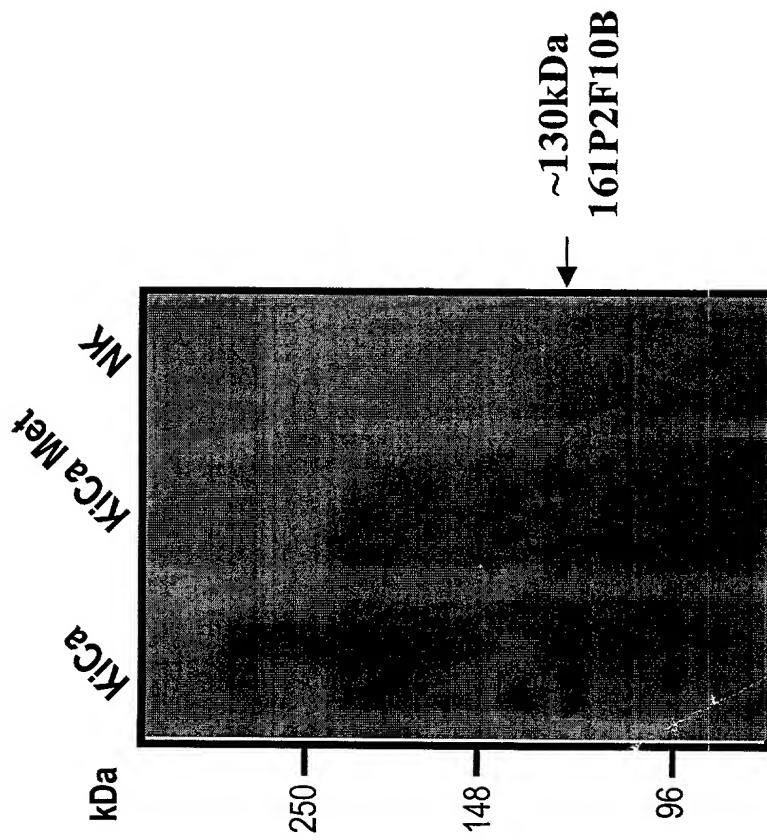
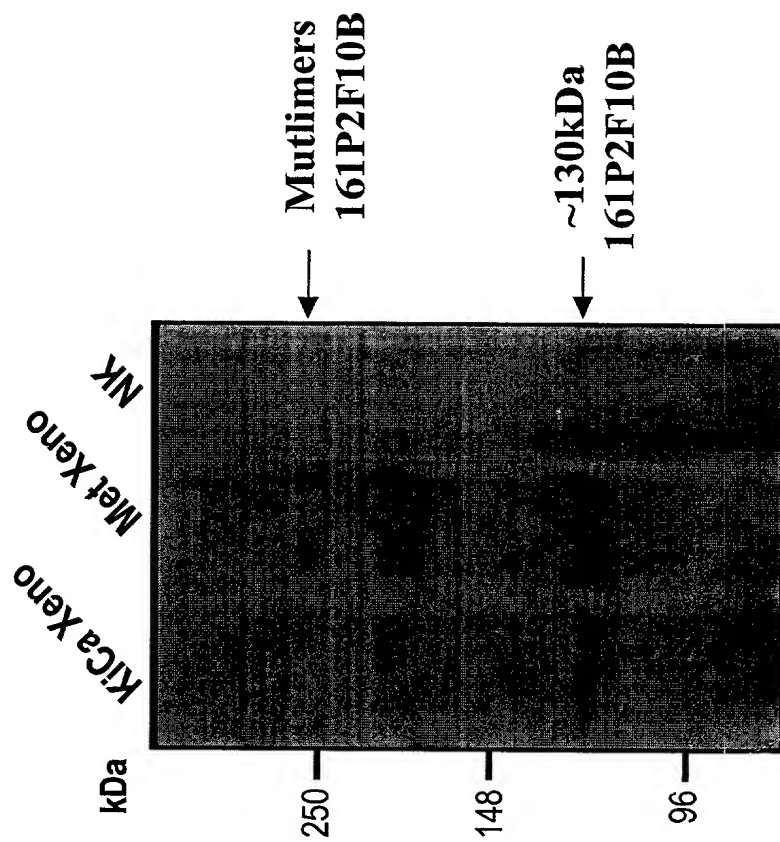


Figure 20 Expression of 161P2F10B in Human Patient Cancers
by Western Blot



KiCa = Kidney cancer, clear cell carcinoma
 KiCa Met = Kidney cancer metastasis to lymph node
 NK = Normal kidney

Figure 21 Expression of 161P2F10B in Human Xenograft
Tissues by Western Blot



KiCa Xeno = Xenograft of kidney cancer, clear cell carcinoma
 Met Xeno = Xenograft from Kidney cancer metastasis to lymph node
 NK = Normal kidney